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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/523,878

08/22/2005

Sotiris Koussios

TECH-21(P61151US00)

4430

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EXAMINER

BRADEN, SHAWN M

ART UNIT

PAPER NUMBER

3781

MAIL DATE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/523,878	<b>Applicant(s)</b> KOUSSIOS ET AL.	
	<b>Examiner</b> SHAWN M. BRADEN	<b>Art Unit</b> 3781	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 23-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                          |

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc. Applicant should remove all pictures and references from abstract.

### *Election/Restrictions*

2. Claims 1-22 & 29-38 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claims. Election was made **without** traverse in the reply filed on 07/17/2008.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 26 recites the limitation "the longitudinal orientation of the fiber" in line 3.

There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 23-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Homann (USPN 5,937,732).

7. With respect to claim 23, Homann shows a fluid-tight body overwound (col 3 line 44-46) as an isotensoide with a number of fiber filaments (9), whereby the radius of the body varies with respect to a rotation-symmetrical axis of the structure, such that said body comprises a number of concave surface (clearly shown fig. 2) sections spaced apart from the axial ends, each having a local minimum radius, and a number of convex surface (clearly shown fig. 2) sections spaced apart from the axial ends, each having a local maximum radius, characterized in that at least one concave surface section is continuously overwound with a fiber (9 or 6) as an isotensoide.

8. With respect to claim 24, Homann shows that the fiber windings in the at least one concave surface section comprises in a non-pressurized state of the structure a multiple number of substantially straight fiber filaments (6) forming a hyperboloid (fig. 2 or 7)

9. With respect to claim 25, Homann shows in that the fluid-tight body is quasi-geodesically (as long as there is no movement there will inherently be a quasi-geodesically amount of friction) overwound in a continuous fashion.

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10. With respect to claim 26, Homann shows that the longitudinal orientation of the fiber along a finite length thereof is orientated substantially perpendicular with respect to the rotation symmetrical axis of the structure (fig. 6-7).

11. With respect to claim 27, Homann shows in that the fiber (9) in a pressurized state undergoes torsion with respect to its longitudinal centre-line, so that substantially one side of the curved fiber (9) remains in contact with the body in the at least one concave surface section (fig. 6-7).

12. With respect to claim 28, Homann shows in that in a pressurized state (fig. 6) there is reversal of the side of the curved fiber (9) which is in contact with the body in the at least one concave surface section (Col 4 line 30-34).

### ***Response to Arguments***

13. Applicant's arguments filed 01/13/2009 have been fully considered but they are not persuasive. In response to applicants arguments to the antecedent basis of "the longitudinal orientation of the fiber" .

14. Next argument is on page 9 paragraph 3, the "Homann is not continuously overwound as an isotenoid" Applicant defines Isotenoidal shape on page 13 of applicant's disclosure as "A rotationally symmetric shape designed in such a way that the applied fibers are tensioned in exactly the same." Homann shows a layer of overwound fibers (6 or 9) and when examiner views fig. 1-5 does not see any outside forces acting on individual fibers. Thus all of the fibers have the same force acting on them.

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15. In response to applicant's next argument, "since the fibers are overwound using the arms at the end caps, the fibers are not isotensoide, Further more, the presence of non-elastic ring-shaped elements does not allow the fibers to be overwound as an isotensoide". Applicant's claim language does not exclude other structure such as end caps or rings that are disclosed in Homann. Applicant's explicate definition of isotensoidal found on page 13 of disclosure does not exclude outside structure.

16. In response to applicant's next argument, "Applicants also contend that the filament structure set forth in Figure 7 of the Homann reference discloses a hyperboloid. More specifically, it can be seen that the structure is not invariant over a rotation along the longitudinal axis of the cylinder, but has a helix structure. Accordingly, the pressurized structure of applicants set forth in claim 23 is .0 completely novel and unobvious in view of the Homann reference" Examiner view fig. 7 and in the broadest reasonable interpretation of Hyperboloid a quadric surface generated by rotating a hyperbola around its main axis. If applicant's does not agree with that point. Fig. 2 is a better representation of a hyperbola. Also the embodiment in fig. 2 better represents the claim language "the radius of the body varies with respect to a rotation-symmetrical axis of the structure".

17. Finally it is not understood what applicant means with the statement "claims 29-38 which where inadvertently withdrawn". In any case they stand withdrawn.

### ***Conclusion***

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHAWN M. BRADEN whose telephone number is (571)272-8026. The examiner can normally be reached on Mon-Friday 9-6:30 est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on (571)272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anthony D Stashick/  
Supervisory Patent Examiner, Art  
Unit 3781

/S. M. B./  
Examiner, Art Unit 3781